



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,214	11/02/2001	Seong-Hun Kim	678-767 (P10010)	9151

7590

10/05/2005

Paul J. Farrell, Esq.  
DILWORTH & BARRESE, LLP  
333 Earle Ovington Blvd.  
Uniondale, NY 11553

EXAMINER

MURPHY, RHONDA L

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/000,214	Applicant(s) KIM ET AL.	
	Examiner Rhonda Murphy	Art Unit 2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,11-13,18,23 and 24 is/are rejected.
- 7) ☒ Claim(s) 2-5,7-10,14-17,19-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Korea on November 2, 2000. It is noted, however, that applicant has not filed a certified copy of the 2000-65054 application as required by 35 U.S.C. 119(b).

### ***Drawings***

2. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The abstract of the disclosure is objected to because of the following minor informalities:

On line 6, the letter "a", before "UEs" shall be deleted.

On line 10, the word "initially" is misspelled.

Correction is required. See MPEP § 608.01(b).

Art Unit: 2667

4. The disclosure is objected to because of the following minor informality: NB-TDD CDMA is described as Narrow Band Time Division "Multiplexing" Code Division Multiple Access. Examiner is inquiring whether applicant intended to denote TDD as Time Division "Duplexing".

Appropriate correction is required.

### ***Claim Objections***

5. Claims 1, 6, 11, 12, 13, 18, 23 and 24 are objected to because of the following minor informality:

Examiner is inquiring whether applicant intended to denote TDD as Time Division "Duplexing".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 6, 11-13, 18, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ue et al. (US 6,577,617) in view of Song (US 2005/0018754).

**Regarding claims 1 and 13**, Ue teaches an apparatus and method (Fig. 2) for randomly assigning downlink sub-frame time slots transmitting user data in an TDD

communication system which includes a plurality of frames having different frame numbers (Fig. 4, col. 5, lines 18-23), each of the frames including a plurality of sub-frames having different sub-frame numbers (Fig. 4, col. 5, lines 18-23), each of the sub-frames including a plurality of time slots (Fig. 4), said apparatus assigns user data of a plurality of user equipments (UEs) to the time slots in each sub-frame (col. 5, lines 28-22), the apparatus comprising: a multiplexer for creating a user data part by multiplexing user data for a UE (it is known in the art for systems passing multiple signals to include multiplexers), and a TPC (Transmission Power Control command) symbol for controlling transmission power of a downlink channel (Fig. 2, TCP 111); and a controller for randomly assigning time slots for transmitting the user data part in the sub-frames, based on a time slot number initially assigned for the user data part (Fig. 2, control section 112; col. 3, lines 36), a sub-frame number at a transmission point of the user data part, and the number of assigned uplink time slots in the corresponding sub-frame (col. 5, lines 25-43).

Although TFCI indicators are known in the art, Ue fails to explicitly disclose a TFCI.

Song, however, explicitly teaches a TFCI symbol for the user data (Fig. 8).

In view of this, it would have been obvious to one skilled in the art to modify Ue's system by including a TFC indicator for the purpose of indicating a transmission format for the user data.

**Regarding claims 6 and 18**, Ue and Song teach the same limitations described above in the rejection of claims 1 and 13, wherein Ue further teaches the apparatus and

method randomly assigning uplink sub-frame time slots (Fig. 3), and comprising a multiplexer for creating a user data part by multiplexing user data to be transmitted to a Node B (col. 3, lines 40-56), and a TPC (Transmission Power Control command) symbol for controlling transmission power of an uplink channel (Fig 3, TPC 207).

**Regarding claims 11 and 23**, Ue and Song teach the same limitations described above in the rejection of claims 1 and 13, wherein Ue further teaches an apparatus and method for receiving a downlink signal of randomly assigned sub-frame time slots (Fig. 2), the apparatus comprising: a controller for determining reception sub-frame time slots in association with the randomly assigned sub-frame time slots, based on a time slot number initially assigned at a reception point of the downlink signal and a sub-frame number at the reception point (Fig. 2, control section 112; col. 3, lines 36); and a demultiplexer for demultiplexing the downlink signal received at the reception sub-frame time slots (it is known in the art for systems to contain demultiplexers when signals are multiplexed), and outputting user data.

**Regarding claims 12 and 24**, Ue and Song teach the same limitations described above in the rejection of claims 11 and 23, wherein Ue further teaches an apparatus and method for receiving uplink signals of randomly assigned sub-frame time slots (Fig. 3).

#### ***Allowable Subject Matter***

8. Claims 2-5, 7-10, 14-17 and 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

\*Hayashi et al. (US 2005/0002349) discloses CDMA/TDD mobile communication system and method.

\*Katsura et al. (US 6,778,520) discloses a radio communication apparatus and method.

\*Tiedemann, Jr. et al. (US 2004/0258024) discloses a method and apparatus for forward link power control.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/000,214  
Art Unit: 2667

Page 7

Rhonda Murphy  
Examiner  
Art Unit 2667

rlm



CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

10/3/05